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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,981	02/25/2004	Giancarlo Traversa	38741/GM/lp	8968

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EXAMINER
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WU, IVES J

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/784,981

Applicant(s)

TRAVERSA ET AL.

Examiner

Ives Wu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

### DETAILED ACTION

(1). Applicants' Remarks and Amendments filed on March 15, 2006 have been received and acknowledged.

Claims 3, 11-14 are amended. Claims 15-17 are newly added.

The objection of claim 3 in the prior Office Action dated December 15, 2005 is removed accordingly.

The 112<sup>nd</sup> paragraph rejection of claims 11 – 14 in the prior Office Action dated December 15, 2005 is withdrawn in response to Applicants' Amendments filed on March 15, 2006.

The rejections of claims 1-14 in the prior Office Action dated December 15, 2005 is withdrawn in response to Applicants' Remarks filed on March 15, 2006.

A new ground rejections for claims 1-17 is introduced hereinafter.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(2). **Claims 1-5, 9-11, 15-17** are rejected under 35 U.S.C. 102(b) as being anticipated by Harke et al (US005710204A).

(3). As to the polymeric matrix incorporated a filler of glass particles, the preponderant fraction of which has a size distribution from 0.2 to 1.5 mm in **independent claim 1**, Harke et al disclose a castable, curable composition for producing plastic molded articles comprising a syrup containing a proportion of acrylic acid monomer and its derivatives (Abstract, line 1-3). In addition, a particulate, inorganic filler in a proportion of 50 to 90 wt% in relation to the total composition is contained in the syrup (Abstract, line 29-31). With a particularly preferred size distribution, care is taken to ensure that at least 10 wt% of the filler having a particle size > 60 µm (Col. 4, line 14-16). Examples of the inorganic filler, which can be used individually or in

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combination, are glass, quartz or other  $\text{SiO}_2$  modifications as well as aluminum trihydroxide (Col. 4, line 24-28).

As to the thermosetting composition material, particularly for manufacturing sanitary articles and kitchen sinks in **independent claim 1**, Harke et al disclose such castable, curable compositions, in particular, for the production of functional parts for kitchens and bathrooms, especially kitchen sinks, counter-tops, washbasins, bathtubs etc (Col. 1, line 14-17).

As to the limitation of **dependent claim 2**, Harke et al disclose the sirup may also contain a proportion of a prepolymer, in particular PMMA (Abstract, line 26-27).

As to the filler content in **dependent claim 3**, Harke et al disclose 50 to 90 wt% of a particulate, inorganic filler (Abstract, line 27-29).

As to polymer matrix in amount from 40 to 15 wt% in **dependent claim 4**, Harke et al disclose 50 to 90 wt% of a particulate, inorganic filler (Abstract, line 27-29), the balance is 10 to 40 wt% for the polymeric matrix.

As to the content of PMMA to be from 25 to 30 wt% of the matrix in **dependent claim 5**, Harke et al disclose the ratio of the sum of the weight content of the acrylic acid monomer and its monomeric derivatives to the sum of the weight content of the further component and the weight content of PMMA being 99:1 to 30:70, and, in the presence of PMMA, the ratio of weight content of the further component to the weight content of the PMMA being at least 5:95 (Col. 2, line 28-34).

As to the limitation of **dependent claim 9**, Harke et al disclose the inorganic filler often used in silanized form (Col. 4, line 23-24).

As to the limitation of **dependent claim 10**, Harke et al disclose with a particularly preferred size distribution, care is taken to ensure that at least 10 wt% of the filler having a particle size  $> 60 \mu\text{m}$  (Col. 4, line 14-16).

As to the crosslinker amount from 1 to 2.5 wt% in **dependent claim 11**, Harke et al disclose 200 g of trimethylolpropane dimethacrylate as crosslinker in Example 2 (Col. 6, line 26-27), which is equivalent to 1.9 wt% of syrup.

As to the limitation of **dependent claim 15**, Harke et al disclose 50 to 90 wt% of a particulate, inorganic filler (Abstract, line 27-29).

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(4). As to the limitation of **independent claim 16**, the disclosure of Harke et al is incorporated herein by reference, the most subject matters of thermosetting composition, filler size, application as claimed has been recited in applicant's claim 1, and filler content as claimed has been recited in applicant's claim 3. All these subject matters have been discussed in paragraph (3).

As to the limitation of **independent claim 17**, the disclosure of Harke et al is incorporated herein by reference, the most subject matters of thermosetting composition, filler size, application as claimed has been recited in applicant's claim 1, and has been discussed in paragraph (3).

As to the particles being spherical particles or a mixture of spherical particles and irregular particles in **independent claim 17**, Harke et al disclose examples of the inorganic filler, which can be used individually or in combination, are glass, glass beads (Col. 4, line 24-26).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

(5). **Claims 6, 7, 12 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harke et al (US005710204A).

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As to the catalyst to be 0.5 to 0.8% in the **dependent claim 6**, Harke et al teach the peroxide in Example 1 and 2 (Col. 6, line 11,30), in absence of showing the criticality of the records, the optimization values of catalyst amount from 0.5 to 0.8% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the color fraction to be 1 to 5 wt% in **dependent claim 7**, Harke et al teach the brown pigment in Example 1 and 2 (Col. 6, line 10,30), in absence of showing the criticality of the records, the optimization values of coloring fraction amount from 1 to 5 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the release agent in amount of 0.1 to 0.2 wt% in the syrup in **dependent claim 12**, Harke et al **teach** a mold release agent (Col. 6, line 5-6), in absence of showing the criticality of the records, the optimization values of release agent amount from 0.1 to 0.2 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the layer of organofunctional silane in amount from 0.5 to 1.0 wt% in the syrup in **dependent claim 14**, Harke et al **teach** the use of silanized form filler material, in absence of showing the criticality of the records, the optimization values of organofunctional silane amount from 0.5 to 1.0 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

(6). **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harke et al (US005710204A) in view of Abe et al (US004334933).

As to the colored glass in **dependent claim 8**, Harke et al **teach** the use of pigment. Harke et al **do not teach** the use of colored glass.

However, Abe et al **teach** the stable inorganic pigment by coating the fine amorphous silica on pigment particle (Col. 1, line 7-9).

The advantage of using the stable inorganic pigment is for high chemical resistance, hydrogen sulfide resistance, light resistance, weatherability, heat resistance and storage stability (Col. 1, line 9-12)

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Therefore, it would have been obvious at time the invention was made to replace filler in the thermosetting composition taught by Haeke et al with filler of colored glass taught by Abe in order to obtain the above-mentioned advantage.

(7). **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harke et al (US005710204A) in view of Traversa et al (US20010041234A1).

As to the limitation of **dependent claim 13**, Harke et al **do not teach** the use of an antissettling agent in an amount of 0.2 to 1 wt%.

However, Traversa et al **teach** the superdispersed amorphous pyrogenic silica ([0040], line 2) in a concentration between 0.01 to 1 % (see claim 10 of Traversa et al (US20010041234A1)).

The advantage of using the superdispersed amorphous pyrogenic silica is to control the settling of the filler ([0040], line 1). The addition of the superdispersed pyrogenic silica is important because it acts as a settling prevention agent ([0059], line 1-3).

Therefore, it would have been obvious at time the invention was made to use superdispersed amorphous pyrogenic silica in a concentration between 0.01 to 1 % taught by Traversa et al in the composition of Harke et al in order to obtain the aforementioned advantage.

**Also, another rejections for claims 1-17 is presented as following:**

(8). **Claims 1-12, 14-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Schock (US005218013A) in view of Harke et al (US005710204A).

(9). Schock discloses a compound such as a built-in sink, a washhand basin or the like consisting of a compound made of resin forming a matrix and filler comprised, at least predominanatly, of quartz particles, the majority of the quartz particles have a size of between 0.1 mm and 2 mm, the filler constitutes about 60 to 80 wt% of the compound (Abstract). A preferred composition of the free-flowing mixture to be processed is described: (1). 74% to 76% by wt of crystalline quartz sand. (2). 24% to 26% by wt of a solution of polymethyl methacrylate in methyl methacrylate, in which the proportion of the polymethyl methacrylate in this solution lies between 18% to 25% by wt. (3). 1.2 wt% (with relation to the resin) of a peroxy catalyst. (4).

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0.2% to 0.4% by wt of bonding agent. (5). 2 wt% of a crosslinking agent (Col. 6, line 60 – Col. 7, line 3). It is known the resin to form the matrix of the compound is dyed if the components are supposed to be colored (Col. 3, line 39-42). The patentee proposes a completely different approach for manufacturing colored components. The mineral filler particles that have a color coating on their surface are used as filler (Col. 3, line 49-53). As a further improvement for components according to the patentee's invention, it is advisable to make the matrix colorless. It has proven particularly expedient to use a color coating which contains at least one color pigment and, as binder, at least one silicate, in particular, a plastic, in particular, (meth)acrylate (Col. 3, line 60 – Col. 4, line 4).

(10). As to the thermosetting composite material in the **independent claim 1**, the disclosure of Schock meets the requirements of the present claim 1 both in terms of the types of materials added and matrix form with fillers. It is reasonable to presume that the composition of the Schock would fulfill as a thermosetting composition material as presently claimed in light of their chemical similarities. The burden is shifted to applicants to establish that the thermosetting composite material of present claim 1 is not the same as or obvious as that set forth by the Schock.

As to the glass particles as filler in the **independent claim 1** and **10**, Schock **teaches** the fillers to be crystalline quartz sand as well as mineral fillers. Schock **does not teach** the filler to be glass particles.

However, Harke et al **teach** the inorganic filler to be quartz, glass and glass beads etc which can be used individually or in combination (Col. 4, line 23-28).

In view of the functionally equivalent inorganic fillers such as quartz, glass used in thermosetting matrix, it would have been obvious at time the invention was made to replace the quartz filler of Schock with glass filler of Harke et al based on their interchangeability due to functional equivalence.

(11). The rationale of rejections for **claims 2-5, 11** is same as recited in the prior Office Action dated December 15, 2005.



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As to the catalyst to be 0.5 to 0.8% in the **dependent claim 6**, Schock disclose the peroxy catalyst to be 1.2 wt% (with relation to the resin), in absence of showing the criticality of the records, the optimization values of catalyst amount from 0.5 to 0.8% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the color fraction to be 1 to 5 wt% in **dependent claim 7**, Schock, Harke et al do not teach the color fraction, in absence of showing the criticality of the records, the optimization values of coloring fraction amount from 1 to 5 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the limitation of **dependent claim 9**, Harke et al disclose the inorganic filler often used in silanized form (Col. 4, line 23-24).

As to the release agent in amount of 0.1 to 0.2 wt% in the syrup in **dependent claim 12**, Harke et al **teach** a mold release agent (Col. 6, line 5-6), in absence of showing the criticality of the records, the optimization values of release agent amount from 0.1 to 0.2 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the layer of organofunctional silane in amount from 0.5 to 1.0 wt% in the syrup in **dependent claim 14**, Harke et al **teach** the use of silanized form filler material, in absence of showing the criticality of the records, the optimization values of organofunctional silane amount from 0.5 to 1.0 wt% used in a known process renders *prima facie* obviousness within one ordinary skill in the art. *In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980).

As to the limitation of **dependent claim 15**, Schock discloses the filler consisting 60 to 80 wt% of compound (Abstract, line 7-8).

As to the limitation of **independent claim 16**, the disclosure of Schock, Harke et al is incorporated herein by reference, the most subject matters of thermosetting composition, filler size, application as claimed has been recited in applicant's claim 1, and filler content as claimed has been recited in applicant's claim 3. All these subject matters have been discussed in paragraphs (9) and (10).

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As to the limitation of **independent claim 17**, the disclosure of Schock, Harke et al is incorporated herein by reference, the most subject matters of thermosetting composition, filler size, application as claimed has been recited in applicant's claim 1, and has been discussed in paragraphs (9) and (10).

As to the particles being spherical particles or a mixture of spherical particles and irregular particles in **independent claim 17**, Harke et al disclose examples of the inorganic filler, which can be used individually or in combination, are glass, glass beads (Col. 4, line 24-26).

(12). **Claim 13** is rejected under 35 U.S.C. 103(a) as being unpatentable over Schock (US005218013) in view of Harke et al (US005710204A), further in view of Traversa et al (US20010041234A1).

As to the limitation of **dependent claim 13**, Schock, Harke et al **do not teach** the use of an antisetling agent in an amount of 0.2 to 1 wt%.

However, Traversa et al **teach** the superdispersed amorphous pyrogenic silica ([0040], line 2) in a concentration between 0.01 to 1 % (see claim 10 of Traversa et al (US20010041234A1).

The advantage of using the superdispersed amorphous pyrogenic silica is to control the settling of the filler ([0040], line 1). The addition of the superdispersed pyrogenic silica is important because it acts as a settling prevention agent ([0059], line 1-3).

Therefore, it would have been obvious at time the invention was made to use superdispersed amorphous pyrogenic silica in a concentration between 0.01 to 1 % taught by Traversa et al in the composition of Schock in order to obtain the aforementioned advantage.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ives Wu whose telephone number is 571-272-4245. The examiner can normally be reached on 8:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on 571-272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner: Ives Wu  
Art Unit: 1713  
Date: May 16, 2006



DAVID W. WU  
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